

CLAIMS

1. A method for maintaining an optical wireless link comprising the steps of:
sending a load on the optical wireless link between a transmitter and a receiver;
5 computing at least one quality indicator of the optical wireless link; and
in response to the at least one quality indicator, automatically partitioning the load
and placing at least one partition on a RF link.
2. The method of claim 1, wherein the step of computing at least one quality
10 indicator comprises the step of determining a bit error rate of the load on the optical
wireless link.
3. The method of claim 2, wherein the step of computing at least one quality
indicator further comprises the step of computing actual atmospheric attenuation of the
15 optical wireless link by using the determined bit error rate of the load on the optical
wireless link.
4. The method of claim 3, wherein the step of computing at least one quality
indicator further comprises the step of computing permissible atmospheric attenuation of
20 the optical wireless link.
5. The method of claim 4, further comprising the step of determining whether the
actual atmospheric attenuation is greater or less than the permissible atmospheric
attenuation.

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6. The method of claim 5, wherein the step of partitioning the load comprises the step of partitioning a portion of the load from the optical wireless link to a RF link when the actual atmospheric attenuation is greater than the permissible atmospheric attenuation.

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7. The method of claim 6, wherein the step of partitioning the load further comprises the step of incrementally increasing the number of partitions placed on the RF link.

8. An apparatus for maintaining an optical wireless link comprising:

10 a transmitter and receiver, wherein the transmitter transmits a load over the optical wireless link to the receiver;

a measuring device coupled to the receiver, the measuring device measuring at least one quality indicator of the optical wireless link;

15 a control device which executes an algorithm, the algorithm providing a signal based on the at least one quality indicator to partition the load and place at least one partition on a RF link;

a control circuit receiving the signal, partitioning the load, and placing at least one partition on the RF link; and

20 a feedback link, the feedback link sending the at least one quality indicator from the measuring device to the control device.

9. The apparatus of claim 8, wherein the at least one quality indicator is a bit error rate of the load on the optical wireless link.

10. The apparatus of claim 9, wherein the algorithm uses the bit error rate of the load to determine actual atmospheric attenuation of the optical wireless link.
11. The apparatus of claim 10, wherein the algorithm determines the permissible
5 atmospheric attenuation of the optical wireless link.
12. The apparatus of claim 11, wherein the control circuit partitions the load and places at least one partition on the RF link when the actual atmospheric attenuation is greater than the permissible atmospheric attenuation.
- 10 13. The apparatus of claim 8, wherein the feedback link is a RF feedback link.
14. The apparatus of claim 8, wherein the feedback link is an optical wireless link.
- 15 15. A method for maintaining an optical wireless link comprising the steps of:
sending a load on the optical wireless link between a transmitter and a receiver;
determining at least one quality indicator of the optical wireless link, wherein the
at least one quality indicator comprises actual atmospheric attenuation of the optical
wireless link, the actual atmospheric attenuation determined by measuring a bit error rate
20 of the load on the optical wireless link; and
in response to the at least one quality indicator, automatically partitioning the load
and placing at least one partition on a RF link.

16. The method of claim 15, wherein the step of computing at least one quality indicator further comprises the step of computing permissible atmospheric attenuation of the optical wireless link.

5 17. The method of claim 16, further comprising the step of determining whether the actual atmospheric attenuation is greater or less than the permissible atmospheric attenuation.

18. The method of claim 17, wherein the step of partitioning the load comprises the
10 step of partitioning a portion of the load from the optical wireless to the RF link when the actual atmospheric attenuation is greater than the permissible atmospheric attenuation.

19. The method of claim 18, wherein the step of partitioning the load comprises the
15 step of incrementally partitioning the load between the optical wireless link and the RF link.

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